

of Boulware (J. R.)
WOUNDED TRACHEA:

SUFFOCATION AND DEATH IN NINETEEN MONTHS.

SUFFOCATION

BY

PLUGGING OF THE TRACHEA,

BY A PORTION OF A

DISEASED BRONCHIAL GLAND.

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Fig. 1.

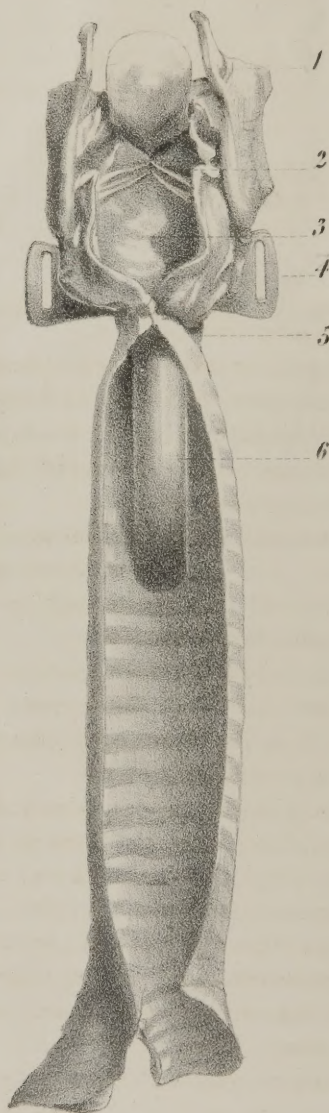


Fig. A. Posterior view of the Larynx and Trachea laid open. Drawn Life Size.

- 1 Epiglottis.
- 2 Vocal Chords.
- 3 Occluded portion of the Larynx.
- 4 Tracheotomy Tube.
- 5 Constricted portion of the Trachea.
- 6 Curved portion of the tube as seen within the Trachea.

Fig. B.

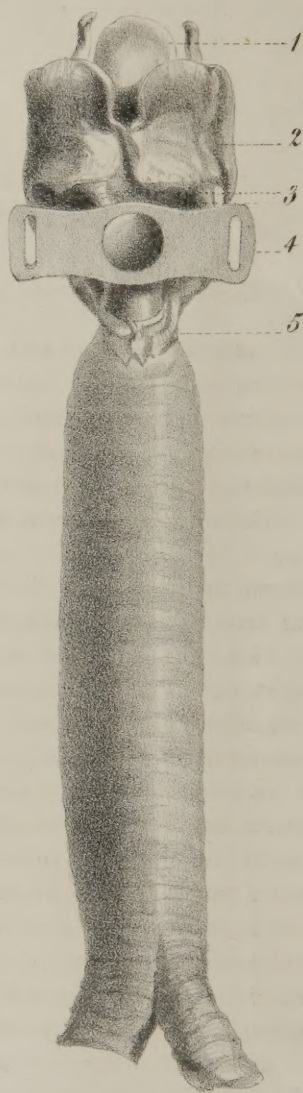


Fig. B. Anterior view of the Larynx and Trachea. Drawn Life Size.

- 1 Epiglottis.
- 2 Thyroid Cartilage.
- 3 The Cricrix.
- 4 Tracheotomy Tube.
- 5 Constricted portion of the Trachea.

WOUNDED TRACHEA.

(Read before the Medical Society of the State of New York, at its annual meeting, February, 1862.)

I present this case and pathological specimen, (consisting of a larynx and trachea) from the fact that it is one of very rare occurrence, the specimen being the only one of the kind, to my knowledge, that has ever been brought to the notice of the profession, either in this country or Europe.

Magendie mentions a case of a man who had a fistulous opening in the larynx for many years, but when this opening was closed by tightening his cravat, the air passed through the glottis, enabling him to speak in an audible voice.

This case is one of interest in a physiological point of view, as it proves, beyond question, that the larynx is the seat of the origin of voice, and also proves that the laryngeal voice is not essential to the formation of articulate language.

History.—M. B——, aged 23, well-nourished housemaid, single, womanhood well developed, of strictly temperate habits. She made an attempt at self-destruction by cutting her throat with a razor while laboring under a temporary aberration of mind. The cut is supposed to have been made from left to right, descending obliquely, wounding the crico-thyroidean membrane and dividing the cricoid cartilage and upper ring of the trachea, and several blood-vessels, but none of large size.

Treatment.—The lips of the wound were drawn together and dressed with adhesive plaster; at the end of three weeks the wound had all healed, with the exception of a small opening in the trachea just below the cricoid cartilage. The edges of the wound were now touched with strong caustic and drawn together with adhesive plaster; soon after mucous collected in such quantities as to threaten suffocation, and render the opening of the wound and insertion of the tracheotomy tube, imperative. She

wore the tube a few days, when it was withdrawn and the wound dressed with adhesive plaster. The wound now began to contract slightly impeding respiration; this contraction of the wound continued, diminishing the calibre of the trachea so that dyspnœa became so urgent as to render it necessary to enlarge the wound, which was done with a probe-pointed bistoury, and the tube inserted, which remained in the wound for several weeks, when it was withdrawn and another attempt made to heal the opening by the application of adhesive plaster, and at the end of eleven weeks from the receipt of the wound, the opening had entirely healed and remained closed five days, when the patient began to suffer so greatly from dyspnœa as to render it necessary to reopen the trachea, which was done, and instant relief followed. No further attempt was made to heal the opening, which was situated just below the cricoid cartilage, and in which she constantly wore a tracheotomy-tube (measuring exactly one quarter of an inch across its shortest diameter.) From this time she began to lose her voice, and in a few weeks it had entirely disappeared.

Closing the opening in the trachea with the fingers or handkerchief, would immediately cause suffocation, proving that no air could pass through the larynx, yet she could speak in an audible whisper; she improved much in articulation, and this improvement continued during life; was able to sound all the letters, and by placing the ear near her mouth, she could converse and readily convey her ideas in an audible whisper. She enjoyed excellent health up to about four days before her death, when she was attacked with urgent symptoms of suffocation. There being considerable difficulty in expectorating mucus through the tube, it was withdrawn, and with the aid of forceps, several clots of tough viscid mucus were removed from the trachea, affording instant relief. During the next few days she had several similar attacks, dyspnœa becoming more intense at each additional attack. These paroxysms of difficult breathing were preceded and accompanied with violent and distressing vomitings. These persistent and severe vomitings, together with other appearances, led me to suspect that she was secretly taking drugs to enable her to get rid of what she *now* considered an impending shame.

All the symptoms became more urgent, vomiting became more intense, secretions of viscid mucus more copious, blocking up the air passages, dyspnœa more threatening, countenance livid

and anxious. She thus died, presenting all the symptoms of suffocation, nineteen months after the receipt of the wound.

Post-mortem—ten hours after death, assisted by Dr. C. D. Mosher.

External appearances.—Countenance turgid, abdomen distended, body well nourished and finely formed, presenting a uniform symmetry in the development of the muscular system; rigor mortis moderate.

Head.—Brain not examined.

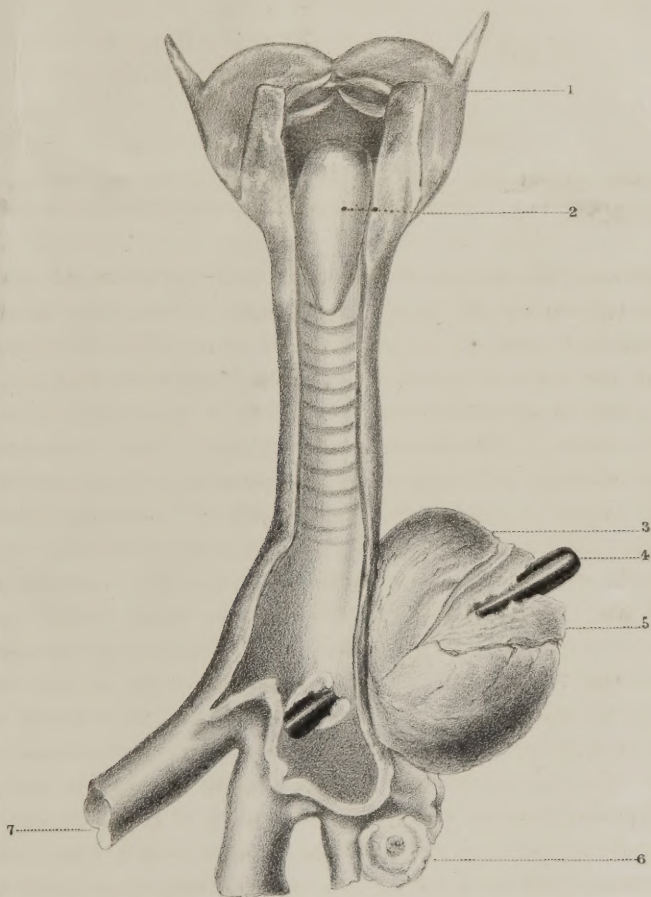
Thorax.—The pericardium and muscular tissue of the heart and valves of the heart and arteries, were healthy; the left auricle and ventricle were empty, the ventricle contracted, the right auricle and ventricle were distended with blood partially coagulated; both lungs were much congested; the tissue of the lungs was healthy, with the exception of a small portion near the apex of the left lung, which was of a reddish brown color and softened, readily sinking in water, presenting the appearance of pneumonia in the second stage; the bronchi and lower portion of the trachea were almost completely obstructed with large quantities of viscid, stringy mucus; blood was intimately incorporated with these clots of mucus, giving them a pale, dingy red color throughout. On examining the smaller bronchial tubes, many of them were found to be completely obstructed with this viscid mucus. On laying the larynx open along its posterior wall, it was found to be completely obstructed at the upper portion of the lower third of the cricoid cartilage by a dense white fibrous tissue. On a more minute examination, this fibrous substance was found to be perfectly organized and firmly attached to the inner walls of the cartilage and extending to its lower border, filling up all that portion of the larynx included within the lower third of the cricoid cartilage, rendering it utterly impossible for any air to pass through the larynx. That portion of the trachea immediately connected with the larynx, was contracted to one third less than the normal size.

Abdomen.—There was one inch of fat in the abdominal walls. On reflecting the integuments from the abdomen, the uterus was seen to be much enlarged and encroaching upon the umbilical region, the fundus was about one inch above the umbilical depression. On laying the uterus open, it was found to contain a well formed male foetus, measuring $12\frac{1}{2}$ inches in length and weighing 17 ounces, (avd. wt.) The abdominal viscera were, in all respects, healthy.

CASE OF SUFFOCATION.

(Read before the Medical Society of the county of Albany, Jan. 9th, 1862, when it was unanimously resolved by that Society that it be offered as a contribution to the New York State Medical Society.)

History.—The patient from whom this pathological specimen was taken, was (S. H.) a boy aged eight years, who died suddenly at 11 o'clock, A. M., on the 7th inst. His father remembers his having had inflammation of the lungs sometime ago. During his earlier years, he was subject to a spasmodic croup; of late, however, he has had no croupy attack. For two weeks preceding his death he occasionally complained of a pain which he located about the middle of the sternum. This pain lasted but a moment, and at first occurred only at long intervals. On the eve of the 6th inst., he was suddenly seized with a severe attack of this pain accompanied by an effort to vomit with signs of choking. During this night and on the following morning, he had several similar attacks; he was kept from school on the morning of the 7th inst., not on account of these attacks which seemed not to have alarmed his parents, but "to take care of the baby." He played in the streets and in the house as usual; "feeling bad," he lay down on a bed with a school book in his hand and seemed to occupy himself about a next day's lesson. Very soon after lying down, his mother was astonished to see him rush from the bed into an adjoining room wildly struggling and choking, his eyes protruding and his face livid. He continued to run about this room without replying to the many anxious questions of his mother, his whole strength and attention seeming directed to "getting breath." He thrust his fingers into his mouth while leaping upon a chair and suddenly jumping from the chair to the floor; after which, with unsteady haste, he reached the bed again to which he clung ready to drop down from exhaustion. His mother then seized him as he was about



EXPLANATIONS OF PLATE.

Posterior View of the Larynx, Trachea, Bronchi and two Bronchial Glands.
Larynx and Trachea laid open. Drawn life size.

1. THE GLOTTIS.
2. THE PLUG.
3. THE ENLARGED GLAND LAID OPEN.
4. WHALEBONE PROBE, SHOWING THE COMMUNICATION BETWEEN THE INTERIOR OF THE BRONCHUS AND GLAND.
5. CHEESY-LIKE MATTER ESCAPING FROM THE GLAND AFTER BEING CUT OPEN.
6. A SMALL GLAND, SOFTENED.
7. THE LEFT BRONCHUS.

Lith. of Van Benthuysen Albany

falling, and while holding him in her arms endeavored to revive him by various little attentions, such as occurred to her in the excitement of the moment, but without effect. He continued to struggle feebly about four minutes when he was quite dead.

His appearance in health, like that of his mother, and of all the other children, was very pale and delicate.

Post-mortem.—At the request of Dr. C. D. Mosher, I made a post-mortem examination five hours after death.

External appearances.—Features composed and rather more turgid than natural; tongue protruding a little and fixed between the teeth; rigor mortis well marked; fluids from the stomach oozing from the nostrils. Moving the body or the slightest pressure over the epigastrium, would cause the contents of the stomach to flow out through the nostrils; the dependent portions of the arms and shoulders were covered with mottled patches and the back with a diffused lividness from sugillation.

Head.—Brain not examined.

Thorax.—On percussion there was everywhere loud resonance, with the exception of a small space below the right clavicle. Pericardium contained a half ounce of clear fluid. Tissue and valves of the heart and arteries were healthy, ventricles were contracted and empty, auricles contained a small quantity of fluid blood. The healthy portions of the lungs were distended to their utmost capacity with air, completely filling the pleural cavities and pressing firmly against the thoracic walls, and when the thorax was opened they did not collapse, but became more distended, so that their anterior surface rose above the walls of the chest. The upper third of the superior lobe of the right lung was hepatized and non-crepitant, on the anterior surface of this indurated portion and near the apex, there was a cicatrix of a dense fibrous structure $1\frac{1}{2}$ inches in length, and $\frac{1}{4}$ inch in breadth near the middle, and tapering to a point at either end, the pleural surface surrounding this cicatrix was considerably puckered, the lower lobes were healthy. The left lung was united to the thoracic walls by firm pleuritic adhesions. The tissue of the lung was healthy. On section the indurated portion of the right lung was seen to contain several encysted tubercles, some were the size of a small walnut and softened. The bronchial glands were enlarged, one the size of a hen's egg was found situated just above the right bronchus, between the trachea and vena cava, and firmly attached to the bronchus and right side of the

trachea; on cutting into this enlarged gland, it was found to contain a light greyish substance of a cheesy consistence. This soft cheesy-like matter, and the deposit in the lungs, when placed under the microscope presented the usual characters of tubercle.

The pharynx, trachea and lungs were removed from the body together, and on carefully opening the larynx along its posterior wall, a greyish substance of a tough cheesy consistence, $\frac{3}{4}$ of an inch in length, of the same calibre as the trachea, and conical in shape, was seen in the upper part of the trachea, with its base pressed firmly against the rima glottidis, completely plugging up the glottis and effectually preventing the egress of any air, thus satisfactorily accounting for the distended condition of the lungs, the suffocation and sudden death of the little sufferer. On cutting the trachea open along its fibro-membranous wall as low down as the enlarged bronchial gland, an opening was found in the walls of the bronchus, communicating with the interior of the gland, and through which the above described plug found its way from the softened gland into the trachea.

Abdomen.—The stomach contained about a half pint of partially digested food, and it was pretty firmly contracted upon its contents. The mesenteric glands were enlarged. Other abdominal viscera healthy.